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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/693,486 | 10/27/2003 | Yun Chur Chung | 117615 | 3120 |

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| EXAMINER | |
|---|---|
| WANG, QUAN ZHEN | |
| **ART UNIT** | **PAPER NUMBER** |
| 2613 | |

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/693,486 | CHUNG ET AL. | |
| | Examiner | Art Unit | |
| | Quan-Zhen Wang | 2613 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *27 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/27/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 4 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Reynolds et al. (U.S. Patent US 7,024,120 B2).

Regarding claim 1, Reynolds discloses a wavelength-division-multiplexed metro optical network (fig. 1) comprising: a transmitting unit (fig. 1, combinations of 16, 18, and OM) having transmitters (fig. 1, OT 16) for directly modulating (column 4, lines 4-12) a light into digital optical signals with different wavelengths and outputting the modulated optical signals and a multiplexer (fig. 1, OM) for multiplexing the optical signals outputted from the transmitters and transmitting the multiplexed signal; a receiving unit (fig. 1, receiving system 26) having a demultiplexer (fig. 1, OD 28) for receiving the multiplexed signal outputted from the multiplexer, demultiplexing the received signal on the basis of the respective wavelengths, and outputting the demutiplexed signals, and receivers (fig. 1, receiver 32) for receiving the demutiplexed signals outputted from the demultiplexer; and an optical fiber (fig. 1, fiber 24) connected between the multiplexer

and the demultiplexer, wherein the optical fiber ("Corning SMF-LS", column 5, lines 37-39) has a negative dispersion value of from -1 ps/nm/km to -3.3 ps/nm/km at a wavelength of 1550 nm, and a positive dispersion inclination (Sarchi et al. U.S. Patent US 6,577,800 B2 is cited here to show inherent characteristics of SMF-LS: as it is shown in fig. 3 of Sarchi, "Corning SMF-LS" has a negative dispersion value of from -1 ps/nm/km to -3.3 ps/nm/km at a wavelength of 1550 nm, and a positive dispersion inclination).

Regarding claim 4, Reynolds discloses that the system utilizing Corning SMF-LS which has a zero-dispersion wavelength of from 1560 nm to 1595 nm, as it is shown in fig. 3 of Sarchi.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reynolds et al. (U.S. Patent US 7,024,120 B2) in view of Sarchi et al. (U.S. Patent US 6,577,800 B2).

Regarding claim 2, Reynolds differs from the claimed invention in that Reynolds does not specifically disclose that at least one optical amplifier disposed between the multiplexer and the demultiplexer. However, it is well known in the art to dispose optical

amplifiers between a multiplexer and a demultiplexer. For example, Sarchi discloses to dispose optical amplifiers between a multiplexer (transmitting node) and a demultiplexer (receiving node) (fig. 1). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate optical amplifiers disposed between the multiplexer and the demultiplexer, as it is taught by Sarchi, in the system of Reynolds in order to compensate for the insertion loss of the transmission fiber.

Regarding claim 3, Sarchi further discloses that the neighboring optical amplifier is less or equal 80 km (column 6, lines 11-13) which covers the range of from 10 km to 80 km.

Regarding claim 5, Sarchi further discloses that the transmitters have a transmission speed per channel of 10 Gb/s (column 13, lines 65-67).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

qzw
11/20/06

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